

A NEW GENUS OF TORTRICID MOTHS FROM CHILE AND
ARGENTINA RELATED TO *VARIFULA* RAZOWSKI
(LEPIDOPTERA: TORTRICIDAE)

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ABSTRACT. *Argentulia*, new genus (Tortricinae: Euliini), is described to accommodate *A. montana* (Bartlett-Calvert 1893), new combination, type species, and *A. gentilii*, new species, from Chile and Argentina. A neotype is designated for *A. montana*. In general facies, members of the new genus are unlike any other species in the tribe Euliini. However, features of the male and female genitalia suggest a close relationship to *Varifula* Razowski from Chile.

Additional key words: phylogeny, neotype, systematics, Euliini, *Proeulia*.

"*Antithesia*" *montana* Bartlett-Calvert, 1893, had a history of taxonomic uncertainty until its mystery was solved by Clarke (1978). The type apparently was lost sometime after the description, leaving a generalized illustration (Bartlett-Calvert 1893:831) as the only permanent record of the moth. In 1922 Meyrick transferred the species to *Hypercallia* (Oecophoridae), apparently based on a misinterpretation of the illustration in which he mistook the antennae for long labial palpi. Based on a single female specimen collected in Argentina in 1974, Clarke (1978) was able to associate the moth convincingly with the illustration and original description. Clarke (1978) provisionally transferred *A. montana* to *Proeulia* Obraztsov, whose included species have similar female genitalia and wing venation.

I recently discovered a small series of *P. montana*, along with an undescribed congener, in the recently acquired Gentili Collection at the National Museum of Natural History, Smithsonian Institution. The availability of both sexes of *P. montana*, along with a closely related second species, allows for a more meaningful generic assignment. The purposes of this paper are to describe *Argentulia*, new genus, and *A. gentilii*, new species, designate a neotype for *A. montana*, and comment on the putative phylogenetic relationship of *Argentulia* to *Varifula* Razowski.

All specimens examined are deposited in the National Museum of Natural History, Smithsonian Institution, Washington, D.C. (USNM). Dissection methodology followed that summarized in Brown and Powell (1991). Forewing measurements were made with an ocular micrometer mounted in a dissecting microscope. Terminology for wing venation and genitalic structures follows Horak (1984). Abbreviations are as follows: FW = forewing; HW = hindwing; DC = discal cell.

Argentulia Brown, new genus

Antithesia (in part); Bartlett-Calvert 1893:831.

Hypercallia (in part); Meyrick 1922:163.

Proeulia (in part); Clarke 1978:251; Powell, Razowski & Brown 1995:145; Razowski 1995:278.

Type species: *Antithesia montana* Bartlett-Calvert, 1893.

Description. *Head:* Antennal cilia in male approximately 0.5–0.6 times flagellar segment diameter; less than 0.1 times flagellar segment diameter in female. Labial palpus 1.0–1.2 times horizontal diameter of eye; segment II weakly upturned, slightly expanded distally by scaling; segment III 0.2–0.3 as long as II, smooth-scaled, exposed. Maxillary palpus rudimentary. Proboscis well developed. Frons with overhanging crown of scales. Ocelli present. Chaetosema present. *Thorax:* Smooth-scaled. Legs unmodified, male foreleg hairpencil absent. Forewing: Length 2.3–2.4 times width; length of DC about 0.60 times FW length; width of DC about 0.20 its length; CuA₂ originates about 0.60 distance along length of DC; all veins separate beyond DC; CuP present; chorda present; M-stem absent. Hindwing: Sc+R and Rs separate; Rs and M₁ connate or extremely short-stalked; M₃ and CuA₁ separate; CuP present; M-stem absent. *Abdomen:* Dorsal pits and specialized scaling absent. *Male genitalia:* Uncus short, stout, with blunt apex. Socius moderately elongate, attenuate distally with curved apical portion; not fused to gnathos. Gnathos simple, non-dentate, arms narrow, joined distally, with fine, spinelike tip. Subscaphium and hami absent. Transtilla a simple, weakly sclerotized band. Valva simple, broadest at base, rounded apically; sacculus weak, confined to basal one-half. Pulvinus absent. Vinculum weak. Juxta a small, sclerotized, undulate plate. Aedeagus simple, somewhat pistol-shaped, attenuate and sclerotized apically; phallobase simple, rounded; vesica with bundle of 12–15 slender cornuti (possibly deciduous). *Female genitalia:* Papillae anales simple. Apophyses anteriores and posteriores stout. Sterigma a simple, weakly sclerotized band; ostium very broad, strongly sclerotized interiorly. Ductus bursae short, undifferentiated from corpus, sclerotized, wrinkly. Corpus bursae oblong, with weak sclerotization caudally; signum lacking. Ductus seminalis from caudal one-third of corpus. Sexual dimorphism (based on *A. montana*) is restricted to the difference in the length of the antennal cilia (longer in male) and slight differences in forewing color.

Diagnosis. Superficially, adults of *Argentulia* are unlike any other genus in the Euliini. Although similar in facies to some Cochylini, the presence of a gnathos excludes the new genus from that tribe. Features of the male and female genitalia of *Argentulia* suggest a close relationship to *Varifula* from Chile (Razowski 1995). The two genera share a remarkably similar aedeagus in which the distal portion is attenuate and highly sclerotized, with a dense patch of 12–15 short, spinelike cornuti (possibly deciduous) in the vesica (Figs. 3, 4). This unique configuration of the aedeagus is considered a synapomorphy for the two genera. The male genitalia of *Argentulia* are distinguished from *Varifula* by a short, stout, blunt uncus, which is long and slender in *Varifula*; a slender thornlike process at the apex of the united gnathos arms, absent in *Varifula*; the attenuate, curved distal portion of the socius, unmodified in *Varifula*; and a markedly reduced transtilla. A broad, spiny transtilla (Razowski 1995:282, fig. 11) is considered an autapomorphy for *Varifula*. Autapomorphies for *Argentulia* include the blunt uncus, the curved distal portion of the socius, and the highly reduced transtilla. Both genera lack the strongly upcurved costa of the valva, the elongate aedeagus with few (1–5) extremely large cornuti, and the male foreleg hairpencil (Brown 1990), which are characteristic of nearly all *Proeulia*. The female genitalia of the two genera, likewise, have many similarities, most of which are synplesiomorphies; both lack the sclerotized, dislike signum of *Proeulia*.

Distribution and biology. *Argentulia* is known from Argentina and Chile. Nothing is known of the early stages, although larvae of the closely related *Proeulia* are mostly polyphagous with many important agricultural pests. Adults of *Argentulia* have been recorded from November through February.

Etymology. The new genus is a combined form of "Argentina" and "Eulia" Hübner, the type genus of the tribe Euliini, to which the new genus belongs.



FIGS. 1-2. Adults of *Argentulia*. 1, Female of *A. montana*. 2, Male of *A. gentilii*.

Argentulia montana (Bartlett-Calvert), **new combination**

Figs. 1, 4, 5

Antithesia montana Bartlett-Calvert 1893:831.

Hypercallia montana; Meyrick 1922:163

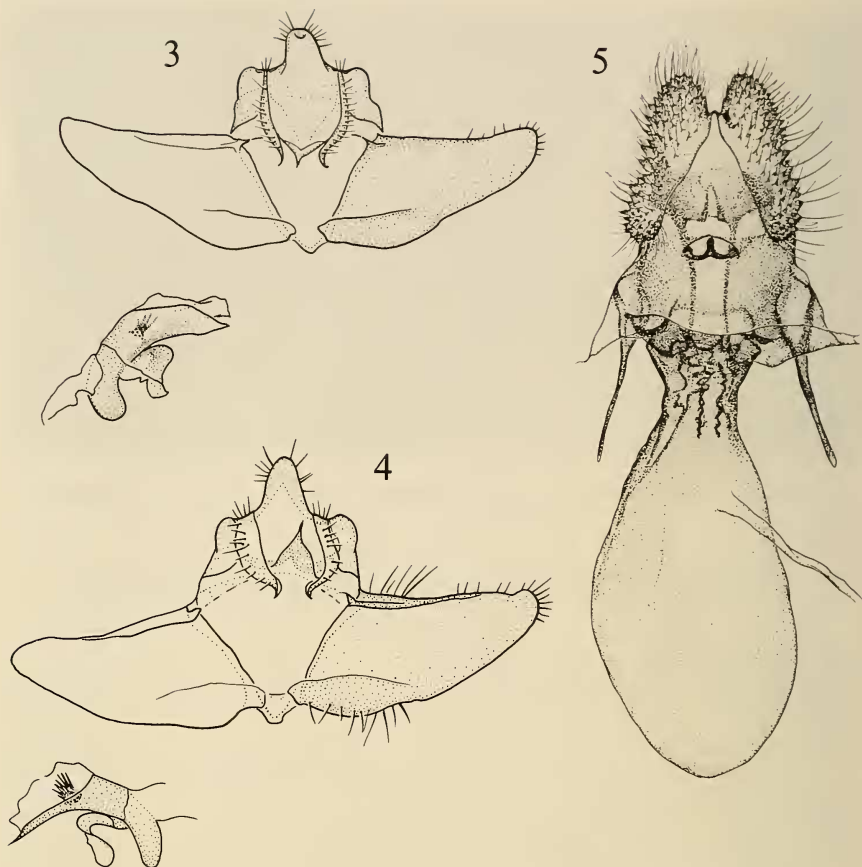
Proeulia montana; Clarke 1978:251; Powell, Razowski & Brown 1995:145; Razowski 1995:278.

Redescription. *Male.* FW length 6.0–8.0 mm (mean = 6.9 mm; $n = 4$). *Head:* Frons with sparse scaling below mid-eye, brown; roughened above, orange. Labial palpus pale yellowish mesally, light brown laterally. Antenna brown. *Thorax:* Orange; tegula dark brown. *Forewing* (Fig. 1): Distinctly bicolored, yellow-orange in basal one-half, dark brown in distal one-half; brown along base of costal margin; distinct yellow-orange dot near end of DC. *Hindwing:* Uniform brown. *Genitalia:* As in Fig. 4 (drawn from USNM slides 88413 and 88414, Argentina; $n = 2$). Essentially as described for the genus. *Female.* FW length 7.5–8.5 mm (mean = 7.8 mm; $n = 3$). FW pattern as in male, but with basal one-half more yellow; distal one-half more orange-brown; yellow-orange dot near end of DC smaller and rounder; and antenna without conspicuous cilia. *Genitalia:* As in Fig. 5 (drawn from USNM slide 24331; Argentina; $n = 2$). As described for the genus.

Type. The holotype from Lolco, Araucania, Chile, apparently is lost. It is not present in either The Natural History Museum, London, England, or Museo Nacional de Historia Natural, Santiago, Chile, the most likely depositories for types of species described by Bartlett-Calvert (Clarke 1978). The species was described from a single individual, the sex of which was not stated in the original description and cannot be determined from the illustration that accompanied the description. A **NEOTYPE** is designated as follows: male, Chapelco-Techos, 1400 m, Neuquén, Argentina, 24 Jan 1984, Y. P. Gentili (USNM).

Additional specimens examined. ARGENTINA: Río Nonthue, Est. For. Pucara, ♀, 28/31 Jan 1974 (O. S. Flint, USNM); Menendez, L. Verde, Chubut, 560 m, 2 ♀, 4 Nov 1983 (Y. P. Gentili, USNM); San Martín, Andes, Neuquén, 640 m, ♂, 15 Nov 1980 (M. Gentili), ♂, 10 Jan 1982, ♂, 15 Dec 1983 (Y. P. Gentili, USNM).

Diagnosis. *Argentulia montana* is easily distinguished from *A. gentilii* by the forewing pattern (Figs. 1, 2). Differences in the genitalia are considerably more subtle; the transtilla is more narrow with a slender line of sclerotization in *A. montana*.



FIGS. 3-5. Genitalia of *Argentulia*. 3, Male genitalia of *A. gentilii*. 4, Male genitalia of *A. montana*. 5, Female genitalia of *A. montana* (from Clarke 1978).

Argentulia gentilii Brown, new species

Figs. 2, 3

Description. *Male.* FW length 6.0-7.0 mm (=6.5 mm; n = 3). *Head:* Frons with sparse, smooth scaling below mid-eye, brown; roughened above, brown. Labial palpus pale yellow mesally, brown laterally. Antenna brown. *Thorax:* Yellow, with dark brown tegula. *Forewing* (Fig. 2): Yellow, with large, rounded, triangular brown patch from near midpoint of dorsum, extending toward termen, joining a uniform, brown terminal band; brown streak along base of costal margin. *Hindwing:* Uniform gray-brown. *Genitalia:* As in Fig. 3 (drawn from USNM slide 88412; n = 2). Essentially as described for genus, except transtilla slightly broader than in *A. montana*. *Female.* Unknown.

Types. Holotype: Male: Paso Cordoba, 1300 m, Neuquén, Argentina, 20 Nov 1980, M. Gentili, USNM. Paratypes, 2 ♂ as follows: CHILE: Bío-Bío Province: Lag. El Barco, Guallali, Santa Barbara, 1200 m, 25/28 Feb 1981 (L. Pena, USNM).

Diagnosis. As indicated above and illustrated in Figs. 1 and 2, *A. gentilii* is distinguished easily from *A. montana* by forewing pattern. Owing to the similarity of the male

genitalia, it is possible that the two represent forms of the same species; however, such dimorphism within the same sex is unknown for any other Euliini. Although subtle, differences in the transtilla described above are consistent in the material examined and support the separation of the two as species. Some phenotypically distinct species of *Varifula* and *Proeulia* also exhibit only subtle differences in genitalic structures.

Etymology. This species is named in honor of Mario Gentili, noted Argentinian lepidopterist and collector of the holotype.

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